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IN THE CLAIMS

Please amend claims 1-2, 4, 7, 9, 14, 17, 19-20 and 22 as indicated below.

Please add new claims 23-34 as indicated below.

1. (Currently Amended) A system comprising:

a memory sized to include lines to store a band of an image and additional lines;

a wavelet processing logic comprising

a wavelet transform to generate coefficients when applied to data in the memory;

access logic to read data from the memory into ~~the~~ line buffers to supply data stored in the memory to the wavelet transform and to store coefficients in the memory, such that after data stored at a first pair of lines is read from memory into the buffers of the access logic, the access logic reuses the first pair of lines to store coefficients generated by the wavelet transform that are associated with a second pair of lines different from the first pair of lines.

2. (Currently Amended) The system defined in Claim 1 wherein the access logic stores coefficients in contiguous lines of memory with coefficients from ~~the~~ a same subband and decomposition level adjacent each other.

3. (Original) The system defined in Claim 1 wherein a first line of each of the first and second pairs of lines are located in the memory at an offset with respect to each other.

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4. (Currently Amended) The system defined in Claim 3 wherein the wavelet transform comprises a plurality of transform levels and coefficient levels, and wherein the access logic stores ~~the~~ first outputs of the wavelet transform for each coefficient level in ~~the~~ additional lines within a distance of the offset.

5. (Original) The system defined in Claim 3 wherein size of the offset is different for each transform level.

6. (Original) The system defined in Claim 3 wherein the size of the offset is equal to:

$2^{(\text{transform level of coefficient being stored})}$.

7. (Currently Amended) The system defined in Claim 6 wherein, during decomposition, the offset for storing ~~the first rows of each pair~~ a first row of rows of L1 coefficients in the memory is two lines from the first row of data of ~~the~~ an image associated with ~~said each pair of rows of~~ the L1 coefficients, and the offset for storing the first row ~~of each pair of rows~~ of L2 coefficients ~~if~~ is four lines from the first row of L1 coefficients associated with ~~said each pair of rows of~~ the L2 coefficients.

8. (Original) The system defined in Claim 1 wherein the access logic stores coefficients associated with a decomposition level greater than level three in the lines of the memory that previously stored the band of the image.

9. (Currently Amended) The system defined in Claim 3 wherein ~~the~~ addition lines relating to the offset are above ~~the~~ a line storing the band of the image.

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10. (Original) The system defined in Claim 1 wherein the wavelet transform is a forward wavelet transform.

11. (Original) The system defined in Claim 1 wherein the wavelet transform is an inverse wavelet transform.

12. (Canceled)

13. (Previously Presented) A method comprising:

reading data from a memory into line buffers to apply a wavelet transform thereto; and

storing coefficients created by applying the wavelet transform at lines in the memory, including access logic reusing a first pair of lines to store coefficients generated by a wavelet transform, that are associated with a second pair of lines different from the first pair of lines, after data stored at a first pair of lines is read from memory into the buffers of the access logic, and wherein a first line of each of the first and second pairs of lines are located in the memory at an offset with respect to each other.

14. (Currently Amended) The method defined in Claim 13 wherein the wavelet transform includes a plurality of transform levels and coefficient levels, and wherein the method further ~~comprising~~ comprises the access logic storing ~~the~~ first outputs of the wavelet transform for each coefficient level in additional lines within a distance of the offset.

15. (Original) The method defined in Claim 13 wherein size of the offset is different for each transform level.

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16. (Original) The method defined in Claim 13 wherein the size of the offset is equal to:

$2^{(\text{transform level of coefficient being stored})}$.

17. (Currently Amended) The method defined in Claim 16 wherein, during decomposition, the offset for storing ~~the first rows of each pair of rows~~ a first row of L1 coefficients in the memory is two lines from the first row of data of ~~the~~ an image associated with ~~said each pair of rows of~~ the L1 coefficients, and the offset for storing the first row ~~of~~ ~~each pair of rows~~ of L2 coefficients ~~if~~ is four lines from the first row of L1 coefficients associated with ~~said each pair of rows of~~ the L2 coefficients.

18. (Original) The method defined in Claim 13 further comprising access logic storing coefficients associated with a decomposition level greater than level three in the lines of the memory that previously stored the band of the image.

19. (Currently Amended) The method defined in Claim 13 wherein ~~the~~ addition lines relating to the offset are above ~~the~~ a line storing the band of the image.

20. (Currently Amended) An article of manufacture comprising at least one recordable media storing executable instructions thereon which, when executed by a processing device, cause the processing device to:

read data from a memory into line buffers to apply a wavelet transform thereto; and

store coefficients created by applying the wavelet transform at lines in the memory when instructions to cause the processing device to store coefficients includes instructions which when executed ~~causes the processing devices~~ cause the processing device to reuse a

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first pair of lines to store coefficients generated by a wavelet transform, that are associated with a second pair of lines different from the first pair of lines, after data stored at a first pair of lines is read from memory into the buffers of ~~the~~ access logic, and wherein a first line of each of the first and second pairs of lines are located in the memory at an offset with respect to each other.

21. (Canceled)

22. (Currently Amended) An apparatus comprising:

means for reading data from a memory into line buffers to apply a wavelet transform thereto; and

means for storing coefficients created by applying the wavelet transform at lines in the memory, ~~when~~ wherein the means for storing includes means for reusing a first pair of lines to store coefficients generated by a wavelet transform, that are associated with a second pair of lines different from the first pair of lines, after data stored at a first pair of lines is read from memory into the buffers of ~~the~~ access logic, and wherein a first line of each of the first and second pairs of lines are located in the memory at an offset with respect to each other.

23. (New) The article of manufacture defined in Claim 20 wherein the wavelet transform includes a plurality of transform levels and coefficient levels, and wherein the method further comprises the access logic storing first outputs of the wavelet transform for each coefficient level in additional lines within a distance of the offset.

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24. (New) The article of manufacture defined in Claim 20 wherein size of the offset is different for each transform level.

25. (New) The article of manufacture defined in Claim 20 wherein the size of the offset is equal to:

$2^{(\text{transform level of coefficient being stored})}$.

26. (New) The article of manufacture defined in Claim 23 wherein, during decomposition, the offset for storing a first row of L1 coefficients in the memory is two lines from the first row of data of an image associated with the L1 coefficients, and the offset for storing the first row of L2 coefficients is four lines from the first row of L1 coefficients associated with the L2 coefficients.

27. (New) The article of manufacture defined in Claim 20 wherein the method further comprises access logic storing coefficients associated with a decomposition level greater than level three in the lines of the memory that previously stored the band of the image.

28. (New) The article of manufacture defined in Claim 20 wherein addition lines relating to the offset are above a line storing the band of the image.

29. (New) The apparatus defined in Claim 22 wherein the wavelet transform includes a plurality of transform levels and coefficient levels, and wherein the apparatus further comprises means for the access logic storing first outputs of the wavelet transform for each coefficient level in additional lines within a distance of the offset.

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30. (New) The apparatus defined in Claim 22 wherein size of the offset is different for each transform level.

31. (New) The apparatus defined in Claim 22 wherein the size of the offset is equal to:

$2^{(\text{transform level of coefficient being stored})}$.

32. (New) The apparatus defined in Claim 29 wherein, during decomposition, the offset for storing a first row of L1 coefficients in the memory is two lines from the first row of data of an image associated with the L1 coefficients, and the offset for storing the first row of L2 coefficients is four lines from the first row of L1 coefficients associated with the L2 coefficients.

33. (New) The apparatus defined in Claim 22 further comprising means for access logic storing coefficients associated with a decomposition level greater than level three in the lines of the memory that previously stored the band of the image.

34. (New) The apparatus defined in Claim 22 wherein addition lines relating to the offset are above a line storing the band of the image.

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